USS Lead Superfund Site
Linear Regression results for Lead in Residential Soils

Prepared By
John Bing-Canar, FIELDS Group, US EPA, Region V
March 2010

Simple linear regression and regression diagnostics were used to find the "best fitting" linear relationship between XRF measurements of Lead levels in soil and their corresponding laboratory measurements using the SAS® software. This relationship is quantified into a model (equation) of XRF measurements of Lead and its corresponding laboratory measurement. The statistical methods employed were drawn from SAS® literature and three regression texts: Statistical Methods in Water Resources, 1992; and Applied Regression Analysis and Other Multivariate Methods, 1978 and 1988. (See "References" section for a complete list of regression resources.) Simple linear regression was performed for Lead (Pb). The data set used was provided by Cheryl Gorman (Sullivan International), a USEPA Contractor. The name of the data file is: CLP vs XRF Lead.xls.

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